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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,366	08/10/2001	Thomas Gilbert Halvorson	D-20814	4461
27182	7590	04/01/2004	EXAMINER	
PRAXAIR, INC. LAW DEPARTMENT - M1 557 39 OLD RIDGEBURY ROAD DANBURY, CT 06810-5113			RIDLEY, BASIA ANNA	
			ART UNIT	PAPER NUMBER
			1764	

DATE MAILED: 04/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/925,366	<b>Applicant(s)</b> HALVORSON ET AL.	
	<b>Examiner</b> Basia Ridley <i>BR</i>	<b>Art Unit</b> 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 January 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-13 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group I, claims 1-13 in Paper No. filed on 7 January 2003 is acknowledged. The traversal is on the ground(s) that the search for Groups I and II would be the same, therefore there would be no greater burden on the examiner if both Groups were searched together. This is not found persuasive because establishing that the inventions are classified in different classes and/or subclasses establishes that a serious burden exists on the examiner if restriction is not required.

The requirement is still deemed proper and is therefore made FINAL.

2. Since the applicant has elected Group I, a further restriction to a distinct species, as set forth below, is required.

a. This application contains claims directed to the following patentably distinct species of the claimed reactor:

Species A-1: as shown in Fig. 2;

Species A-2: as shown in Fig. 12.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, none of the claims appears to be generic.

b. This application contains claims directed to the following patentably distinct species of the second heat exchanger:

Species B-1: wherein said second heat exchanger comprises one heat exchange zone, as described in specification on pages 15-16;

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Species B-2: wherein said second heat exchanger comprises two heat exchange zones divided by a catalytic pre-reforming section, as described in specification on pages 15-16.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, none of the claims appears to be generic.

c. This application contains claims directed to the following patentably distinct species of the reactant section:

Species C-1: wherein the reactant section has baffle plates configured to produce an axial flow, as described in specification on page 10;

Species C-2: wherein the reactant section has baffle plates configured to produce a cross flow, as described in specification on page 10;

Species C-3: wherein the reactant section has baffle plates configured to produce a combined axial and transverse flow, as described in specification on page 10;

Species C-4: wherein the reactant section has baffle plates configured to produce a spiral flow, as described in specification on page 10;

Species C-5: wherein the reactant section has baffle plates configured to produce a radially segmented cross flow, as described in specification on page 10;

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Species C-6: wherein the reactant section has baffle plates configured to produce a transverse segmented cross flow, as described in specification on page 10.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, none of the claims appears to be generic.

d. This application contains claims directed to the following patentably distinct species of the first heat exchanger:

Species D-1: wherein the first heat exchanger is separated into stages that are divided by baffles which direct shell side flow in a cross-counter flow fashion, as described in specification on page 33 and shown in Fig. 2;

Species D-2: wherein the first heat exchanger comprises baffles which direct shell side flow in a spiral flow fashion, as described in specification on page 33 and shown in Fig. 10.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, none of the claims appears to be generic.

Applicant is advised that a reply to this requirement must include an identification of the species (either A-1 or A-2 and either B-1 or B-2 and either C-1 or C-2 or C-3 or C-4 or C-5 or C-6 and either D-1 or D-2) that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is

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allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

3. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

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application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Basia Ridley, whose telephone number is (571) 272-1453. The examiner can normally be reached on Monday through Thursday, from 9:00 AM to 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola, can be reached on (571) 272-1444.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Technical Center 1700 General Information Telephone No. is (571) 272-1700. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Questions on access to the Private PAIR system should be directed to the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).



Basia Ridley  
Examiner  
Art Unit 1764

BR  
March 30, 2004